IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An integrated circuit package having a plurality of leads and a heat sink having reduced lead inductance from that of a conventional electrically isolated heat sink comprising:

a package body;

an integrated circuit die positioned within the package body;

a lead frame including a plurality of leads having portions enclosed within the package body that connect to the integrated circuit die, the plurality of leads having portions enclosed within the package body forming an area; and

an electrically conductive heat sink positioned at least partially within the package body with a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of the enclosed portion of at least eighty percent of the area formed by the plurality of leads of the lead frame having portions enclosed within the package body and with a die-attach area on the surface of the first portion of the heat sink attached to the integrated circuit die, a second portion of the heat sink under the die-attach area and the integrated circuit die projecting away from the first portion of the heat sink, the heat sink coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame for reducing lead inductance at least about 0.90 nanoheneries from that of a conventional electrically isolated heat sink.

2. (Previously Presented) The integrated circuit package of claim 1, wherein the package body includes one of a transfer molded plastic package body and a preformed ceramic package body.

3. (Previously Presented) The integrated circuit package of claim 1, wherein the integrated circuit die includes one of a Dynamic Random Access Memory integrated circuit die, a Static Random Access Memory integrated circuit die, a Synchronous Dynamic Random Access Memory integrated circuit die, a Sequential Graphics Random Access Memory integrated circuit die, a flash Electrically Erasable Programmable Read-Only Memory integrated circuit die, and a processor integrated circuit die.

4. (Previously Presented) The integrated circuit package of claim 1, wherein the lead frame includes one of a peripheral-lead finger lead frame, a Leads Over Chip lead frame, and a Leads Under Chip lead frame.

5. (Canceled)

6. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink is coupled to the reference voltage through one of a wirebond, a conductive adhesive, and a welded connection.

7. (Withdrawn) The integrated circuit package of claim 1, wherein the heat sink is electrically isolated from the lead frame.

8. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink is positioned only partially within the package body.

9. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink is coupled to a printed circuit board outside the package body thereby coupled to one of a signal voltage and a reference voltage.

10. (Previously Presented) The integrated circuit package of claim 8, wherein the second portion of the heat sink projects substantially to one of a top and a bottom of the package body.

11. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink is positioned within the package body with the surface of its first portion in close proximity to substantially all of the enclosed portion of each of the plurality of leads of the lead frame.

12. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink is positioned within the package body with its first portion extending substantially to at least one side of the package body.

13. (Canceled)

14. (Previously Presented) The integrated circuit package of claim 1, wherein the first and second portions of the heat sink are integral with one another.

15. (Previously Presented) The integrated circuit package of claim 1, wherein the first and second portions of the heat sink comprise separate parts.

16. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink comprises a plurality of parts, each forming a portion of both the first and second portions of the heat sink.

17. (Previously Presented) The integrated circuit package of claim 1, wherein the surface of the first portion of the heat sink includes a recess in which the die-attach area is located.

18. (Previously Presented) The integrated circuit package of claim 1, wherein the heat sink has locking holes therein for locking the heat sink in the integrated circuit package.

19. (Previously Presented) The integrated circuit package of claim 1, further comprising an adhesive attaching the lead frame to the heat sink.

20. (Previously Presented) The integrated circuit package of claim 1, wherein the integrated circuit package comprises one of a Vertical Surface Mount Package, a Small Outline J-lead package, a Thin Small Outline Package, a Quad Flat Pack, and a Thin Quad Flat Package.

21. (Withdrawn) A heat sink for an integrated circuit (IC) package having a lead frame including a plurality of leads having portions enclosed within the IC package that connect to an IC die, the heat sink comprising:

a first portion having a surface constructed to face the lead frame in close proximity to a substantial part of the enclosed portion of each of the leads of the lead frame, a die-attach area on the surface of the first portion being attachable to the IC die; and

a second portion substantially opposite the die-attach area for projecting away from the first portion under the die-attach area and the IC die.

22. (Currently Amended) An electronic system having ~~comprising~~ an input device, an output device, a memory device, and a processor device coupled to the input, output, and memory devices, at least one of the input, output, memory, and processor devices including an integrated circuit package having a plurality of leads and a heat sink for reduced lead inductance from that of a conventional electrically isolated heat sink comprising:

a package body;

an integrated circuit die positioned within the package body;

a lead frame including a plurality of leads having portions enclosed within the package body that connect to the integrated circuit die, the plurality of leads having portions enclosed within the package body forming an area; and

an electrically conductive heat sink positioned at least partially within the package body with a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of the enclosed portion of at least eighty percent of the area formed by the plurality of leads of the lead frame having portions enclosed within the package body forming an area and having a die-attach area on the surface of the first portion of the heat sink attached to the integrated circuit die, a second portion of the heat sink under the die-attach area and the integrated circuit die projecting away from the first portion of the heat sink and the integrated circuit die for reducing lead inductance at least about 0.90 nanoheneries from that of a conventional electrically isolated heat sink.

23. (Withdrawn) A lead frame assembly comprising:

a lead frame; and

a heat sink positioned with a surface thereof in a substantially mutually parallel and co-extensive relationship with, and in close but electrically insulated proximity to, the lead frame.

24. (Currently Amended) An integrated circuit package having a plurality of leads and a heat sink having a different lead inductance from that of a conventional electrically isolated heat sink comprising:

a package body;

an integrated circuit die positioned within the package body;

a lead frame including a plurality of leads having portions enclosed within the package body that connect to the integrated circuit die, the plurality of leads having portions enclosed within the package body forming an area; and

an electrically conductive heat sink positioned at least partially within the package body with a vertically extending columnar portion surrounded by a horizontally extending skirt portion having a vertical thickness, said columnar portion having a vertical thickness which is greater than the vertical thickness of said skirt portion, and having a lead frame attachment surface proximate a die-attach surface substantially vertically aligned with the columnar portion, the lead frame attachment surface being attached to the lead frame and extending in close proximity

extending in close proximity to a substantial part of the enclosed portions of at least eighty percent of the area formed by the plurality of leads of the lead frame having portions enclosed within the package body, the die-attach surface being attached to the integrated circuit die for reducing lead inductance at least about 0.90 nanoheneries from that of a conventional electrically isolated heat sink.

25. (Currently Amended) An integrated circuit package having heat sink and a plurality of leads having a different lead inductance from that of a conventional electrically isolated heat sink comprising:

an integrated circuit die;

a lead frame including a plurality of leads having portions that are connected to the integrated circuit die, the plurality of leads forming an area; and

an electrically conductive heat sink positioned having a surface of a first portion of the heat sink facing the lead frame in close proximity to a substantial part of an enclosed portion of at least eighty percent of the area formed by the plurality of leads of the lead frame and with a die-attach area on the surface of the first portion of the heat sink attached to the integrated circuit die, a second portion of the heat sink under the die-attach area and the integrated circuit die projecting away from the first portion of the heat sink, the heat sink coupled to one of a signal voltage and a reference voltage for the heat sink to operate respectively as a signal plane and a ground plane for the plurality of leads of the lead frame for reducing lead inductance at least about 0.90 nanoheneries from that of a conventional electrically isolated heat sink.

26. (Previously Presented) The integrated circuit package of claim 25, further comprising a package body.

27. (Previously Presented) The integrated circuit package of claim 26, wherein the package body includes one of a transfer molded plastic package body and a preformed ceramic package body.

28. (Previously Presented) The integrated circuit package of claim 25, wherein the integrated circuit die includes one of a Dynamic Random Access Memory integrated circuit die, a Static Random Access Memory integrated circuit die, a Synchronous Dynamic Random Access Memory integrated circuit die, a Sequential Graphics Random Access Memory integrated circuit die, a flash Electrically Erasable Programmable Read-Only Memory integrated circuit die, and a processor integrated circuit die.

29. (Previously Presented) The integrated circuit package of claim 25, wherein the lead frame includes one of a peripheral-lead finger lead frame, a Leads Over Chip lead frame, and a Leads Under Chip lead frame.

30. (Canceled)

31. (Previously Presented) The integrated circuit package of claim 25, wherein the heat sink is coupled to the reference voltage through one of a wirebond, a conductive adhesive, and a welded connection.

32. (Withdrawn) The integrated circuit package of claim 25, wherein the heat sink is electrically isolated from the lead frame.

33. (Previously Presented) The integrated circuit package of claim 26, wherein the heat sink is positioned only partially within the package body.

34. (Previously Presented) The integrated circuit package of claim 26, wherein the heat sink is coupled to a printed circuit board outside the package body and is thereby coupled to one of a signal voltage and a reference voltage so the heat sink operates respectively as a signal plane and a ground plane for the plurality of leads of the lead frame.

35. (Previously Presented) The integrated circuit package of claim 34, wherein the second portion of the heat sink projects substantially to one of a top and a bottom of the package body.

36. (Previously Presented) The integrated circuit package of claim 26, wherein the heat sink is positioned within the package body with the surface of its first portion in close proximity to substantially all of the enclosed portion of each of the plurality of leads of the lead frame.

37. (Previously Presented) The integrated circuit package of claim 26, wherein the heat sink is positioned within the package body with its first portion extending substantially to at least one side of the package body.

38. (Canceled)

39. (Previously Presented) The integrated circuit package of claim 25, wherein the first and second portions of the heat sink are integral with one another.

40. (Previously Presented) The integrated circuit package of claim 25, wherein the first and second portions of the heat sink comprise separate parts.

41. (Previously Presented) The integrated circuit package of claim 25, wherein the heat sink comprises a plurality of parts, each forming a portion of both the first and second portions of the heat sink.

42. (Previously Presented) The integrated circuit package of claim 25, wherein the surface of the first portion of the heat sink includes a recess in which the die-attach area is located.

43. (Previously Presented) The integrated circuit package of claim 25, wherein the heat sink has locking holes therein for locking the heat sink in the integrated circuit package.

44. (Previously Presented) The integrated circuit package of claim 25, further comprising an adhesive attaching the lead frame to the heat sink.

45. (Previously Presented) The integrated circuit package of claim 25, wherein the integrated circuit package comprises one of a Vertical Surface Mount Package, a Small Outline J-lead package, a Thin Small Outline Package, a Quad Flat Pack, and a Thin Quad Flat Pack.